Learning Objectives

The learning objectives for this module include:

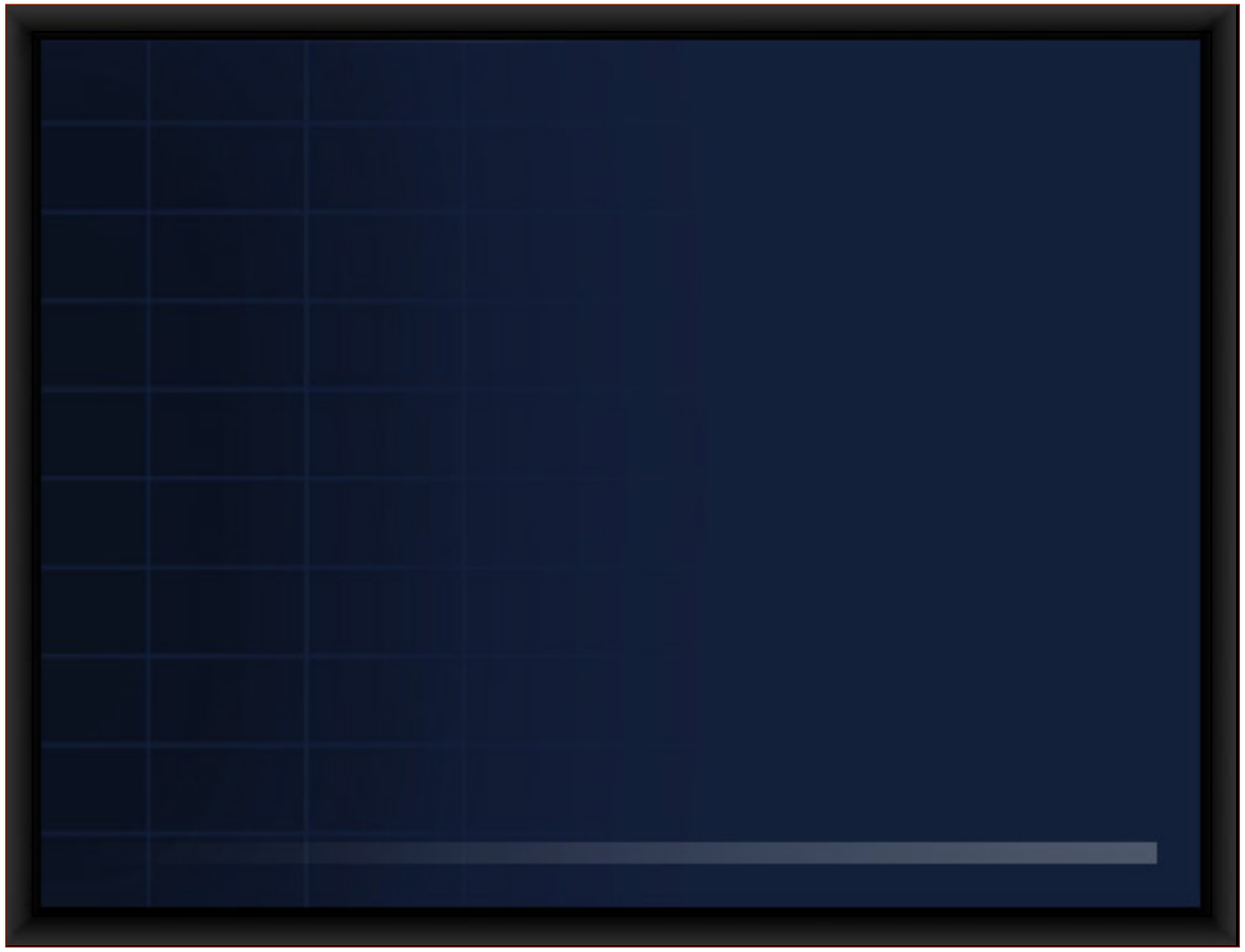
- **describing manufacturing trends prompted by necessity or consumer demand.**
- **describing manufacturing trends prompted by government mandates.**
- **describing new repair technologies.**

A Look At What's New

Acura NSX Concept

- Glance at what is coming into repair facilities
- Present and discuss trends and technologies relevant to collision repair
- Not a "how-to" type of course
- Limited details
- Some concept technologies

Video: Tech/Trends Trivia



Aluminum Demand Rises

Mercedes-Benz SL

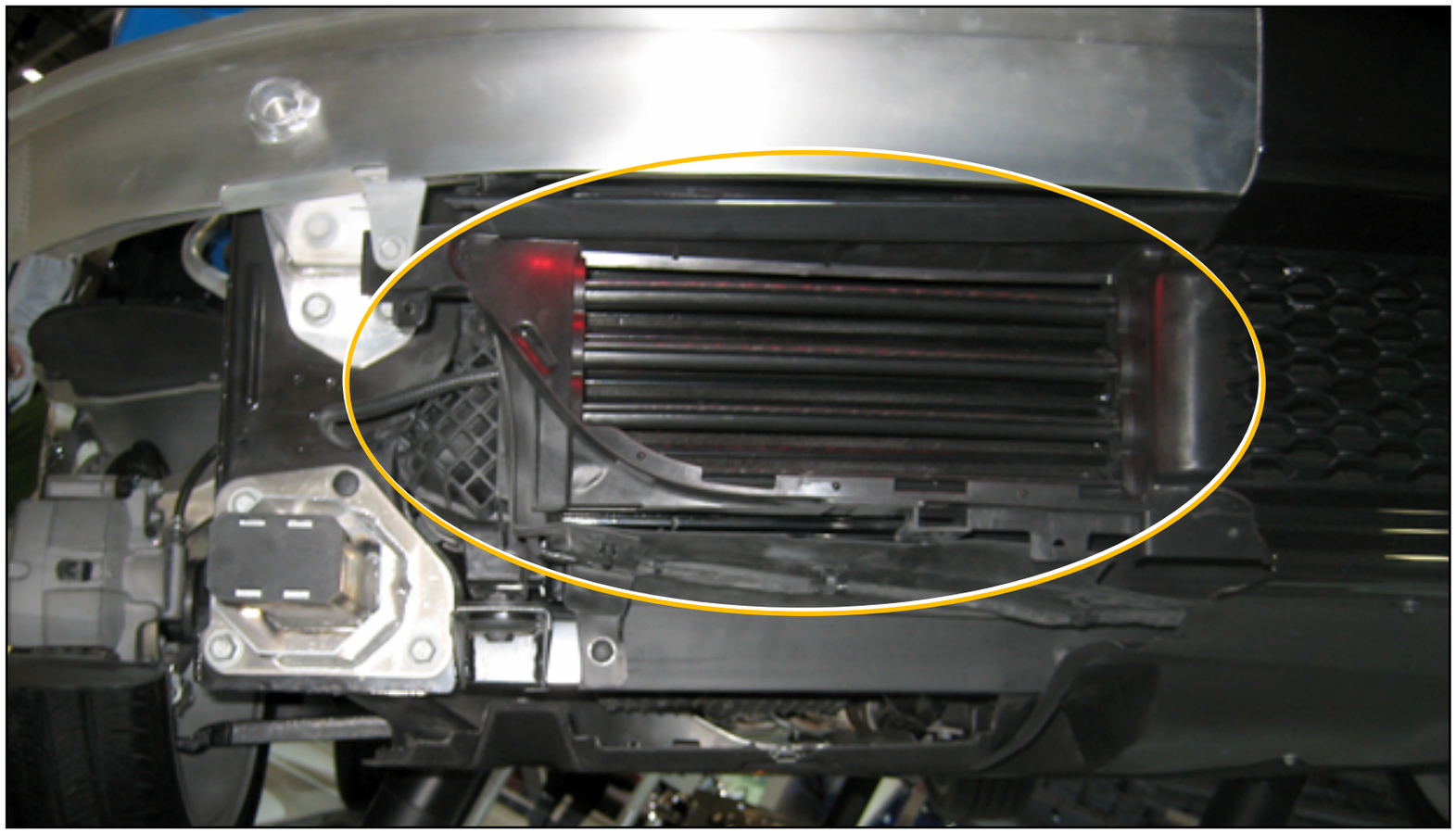
- To lower weight
- Alcoa Aluminum expanding Iowa facility due to rising demand for vehicles
- Honda says reaching limits of HSS
- Mercedes-Benz releases first high-production, aluminum-intensive vehicle

Aluminum Demand Rises (cont'd)

Porsche 911

- Tata Motors says all future Land Rovers and Jaguars will be aluminum-intensive
- Porsche says most future vehicles will have an aluminum/ steel structure

More Active Grille Shutters



- Automatically opens at low speeds to allow in airflow
- Shuts to improve aerodynamics at high speeds
- 2013 Chevrolet Malibu Eco
- 2013 Dodge Dart
- 2013 Ford Escape/Taurus
- Requires inspection after frontal collision

Stop/Start Systems On Non-Hybrids

- Stops engine when at idle, starts when brake pedal released
- Adds to fuel efficiency and lowers emissions
- 2013 Ford Fusion
- 2013 Ram 1500
- 2013 Porsche 911, Panamera
- Started in Europe

Coasting Without The Engine

Porsche 911

- Engine switches off or to idle when foot is lifted off accelerator at highway speeds
- BMW ActiveHybrid 5
- VW Jetta Hybrid
- Porsche 911 Carrera, Panamera
  - non-hybrids

More Diesels In U.S. Market

Porsche Cayenne

- GM introducing diesel Chevrolet Cruze for 2013
- Porsche introducing diesel Cayenne
- VW offers diesel Beetle and Passat
- About half of all vehicle sales in Europe
- Better fuel efficiency

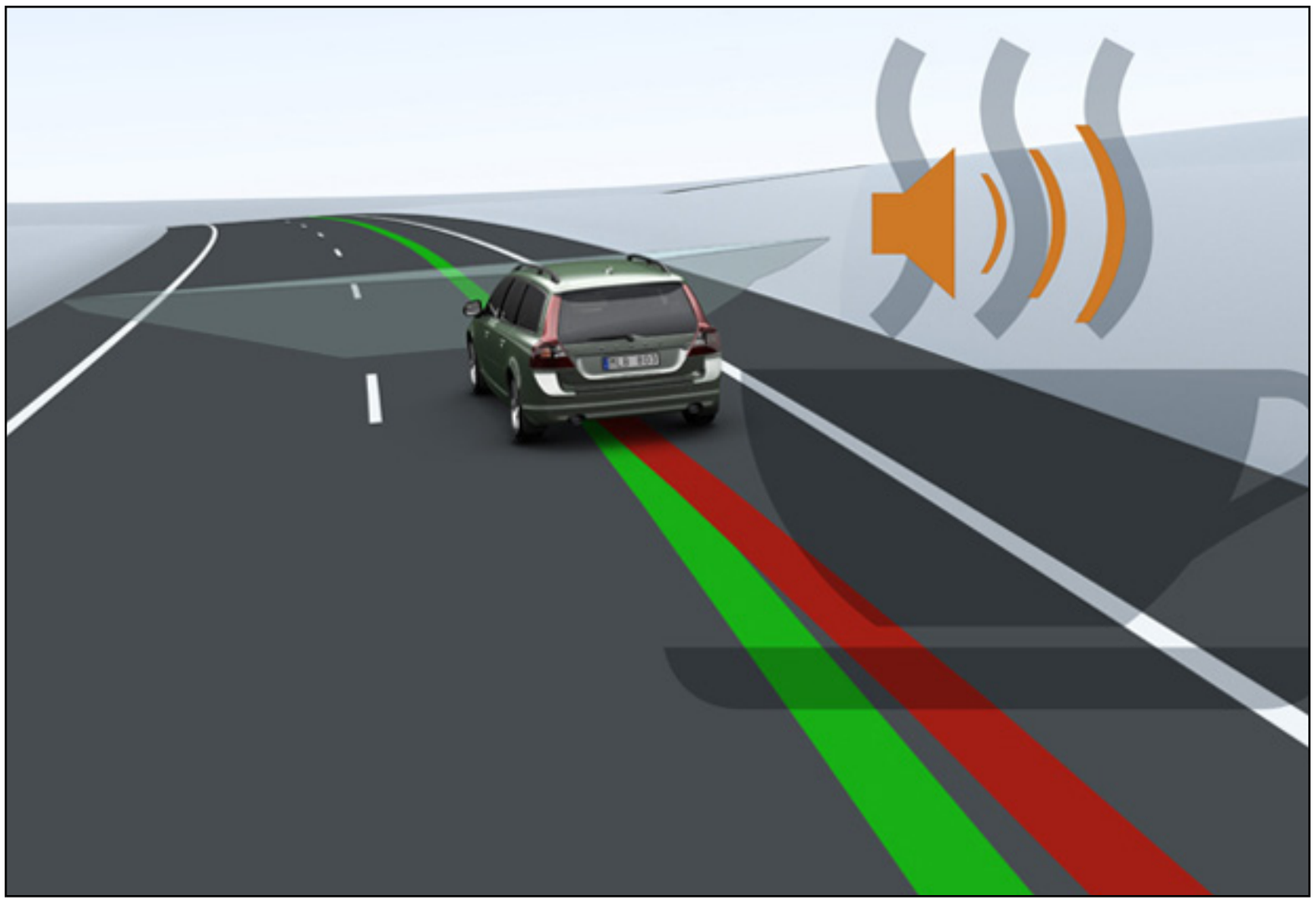
More Plug-In Hybrids For 2013

Volvo XC60

- Toyota Prius
- Ford Fusion Energi
- Ford C-MAX
- Honda Accord
- Volvo XC60 planned

Video: Tech/Trends Trivia

Technology Trickles Down



Courtesy of Volvo Cars of North America

- Once only luxury class, now common on other vehicles
- Repairers must stay up to date
- Lane departure warning
- Driver alert warning
- Blind spot warning

Technology Trickles Down (cont'd)

- Adaptive cruise control
- Automatic high beams
- Brake assist
- Park assist

More Autonomous Braking Systems

2013 Ford Escape

- Applies brakes when driver does not
- Subaru “Eyesight Driver Assistance”
- Ford “Curve Control”
- Infiniti “Backup Collision Intervention”

Busy Steering Wheels

Infiniti M35h

Ford Focus ST

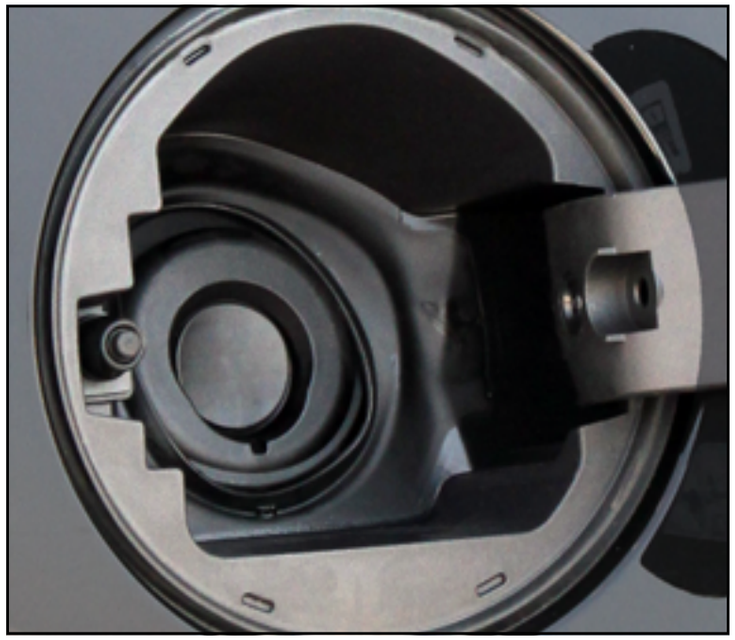
Subaru Outback

- Cruise control
- Radio station selection and sound settings
- Navigation system
- Hands-free telephone
- Paddle shifters

Use Of Synthetic Oil

- **Standard on all Volvo models as of 2013**
  - **required for warranty**
- **Toyota phasing in since 2011**
- **Reduced friction and wear**
- **Fewer oil changes**

Capless Fuel Fillers



Cadillac XTS Funnel

- Started on 2009 Ford Explorer, then on all Ford and Lincoln models
- In 2011, on Chrysler 300 and Dodge Charger
- In 2013, on Cadillac XTS
- No filler cap to lose, but funnel required for emergency fills

Video: Tech/Trends Trivia

The Rise Of Matte Finishes

Mercedes-Benz SL

- Flattening agent added to clearcoat
- No reflections
- Works with all colors
- Never wax

Factory-Built Compressed Natural Gas (CNG)

CNG Ram 2500

- CNG Ram 2500
  - seamless CNG to gasoline
- CNG GM Silverado and Sierra 2500
- Honda continues Civic GX
- Less expensive, cleaner burning than gasoline

More Electronic Parking Brakes

Chevrolet Impala

Chevrolet Traverse

Ford Fusion

- First only on European makes since 2001
- Now Ford, GM, Lexus models
- Switch, control module, and specially designed rear brake calipers
- Pros and cons

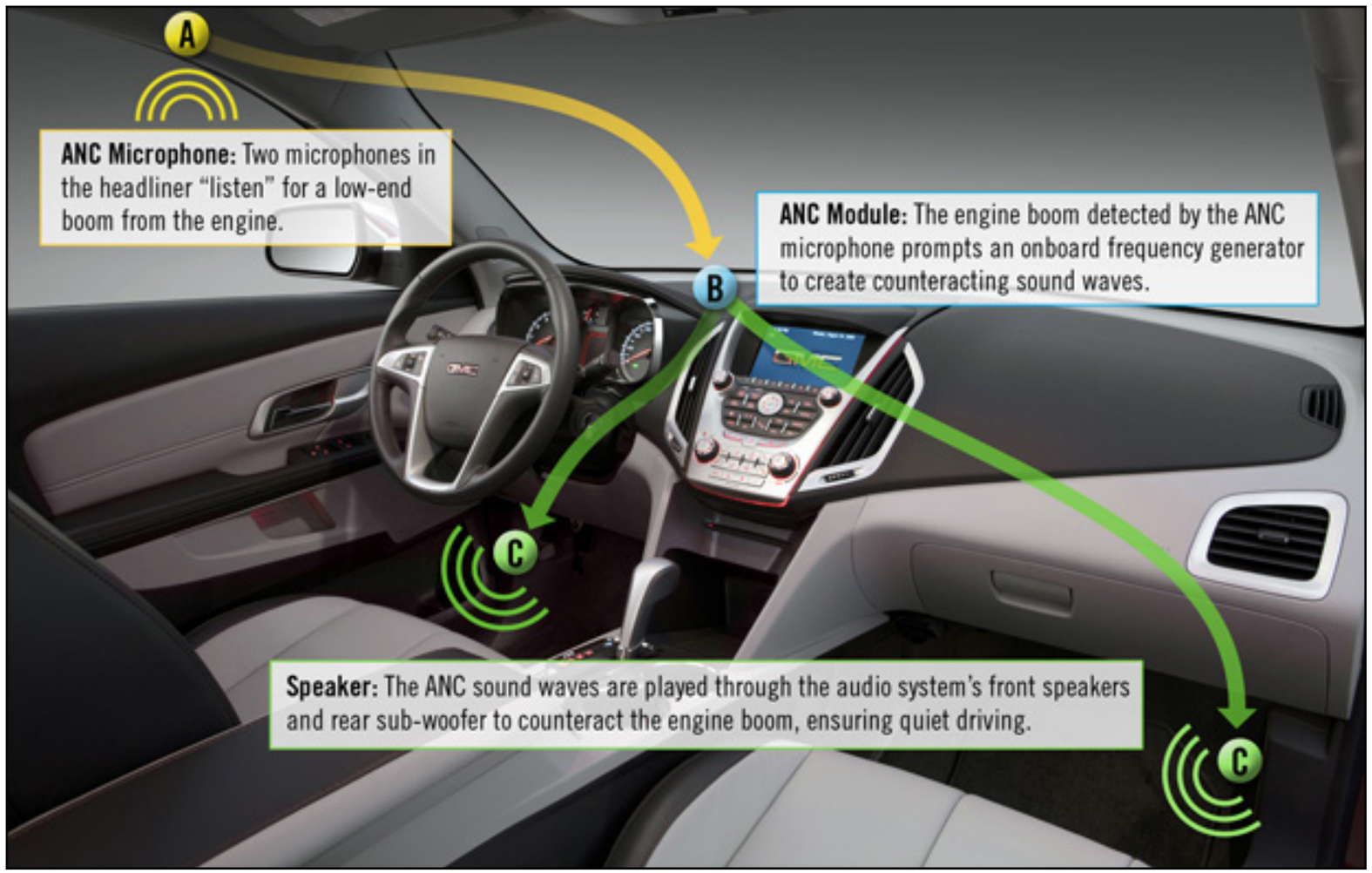
More Active Noise Cancellation Systems

Ford Fusion

- Due to customer demand
- Increased capabilities
- Use audio system
- May have speakers in headliner
- 2013 Ford Fusion and Buick Encore

Video: Buick Noise Cancellation

GM Active Noise Cancellation (ANC) System


A
ANC Microphone: Two microphones in the headliner "listen" for a low-end boom from the engine.
B
ANC Module: The engine boom detected by the ANC microphone prompts an onboard frequency generator to create counteracting sound waves.
C
Speaker: The ANC sound waves are played through the audio system's front speakers and rear sub-woofer to counteract the engine boom, ensuring quiet driving.
C

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- **Designed to cancel engine noise up to 2,000 RPM**
  - **does not eliminate air leaks or road noise**
- **Four main parts**
  - **module, two microphones, amplifier, speakers**